

Proper Battery Selection

Having the proper battery or amount of batteries for the system to be powered is extremely important to the life of the battery. When planning your power delivery system make sure you have the right amount of battery power so as to not discharge the battery too deeply during normal operation. Even though the Stinger batteries have the best deep cycling ability in the market, the deeper the battery is cycled the shorter the life expectancy will be. This is evident in the chart below:

Typical Stinger POWER battery Cycling Ability vs. Depth of Discharge	
Depth of Discharge	Typical Life Cycles
100%	300
50%	500
30%	1100
10%	2500

Please discuss battery selection with your Stinger® dealer prior to installation if you have any questions.

Battery Testing

Testing your POWER battery to determine its functional condition can be done in two ways. The first is to test the open circuit voltage of the battery to determine the state of charge with a voltmeter. Testing Open Circuit Voltage means testing the battery's voltage with nothing connected to the battery (disconnect one terminal). Consult the chart below to compare your readings:

State of Charge vs. Open Circuit Voltage	
State of Charge	Open Circuit Voltage
100%	12.85 volts
75%	12.5 volts
50%	12.2 volts
25%	11.9 volts
0%	11.6 volts

The second way to test the battery is by using a load tester (usually available at your Stinger® dealer or most auto service centers). A load test is performed on batteries that are suspect of having reduced output capacity. For example a battery's open circuit voltage tests good but the battery is unable to support a load.

Important Charging Information

Proper charging is crucial for proper performance of the POWER battery. We recommend keeping the POWER battery's voltage maintained at 12.8 volts (open circuit) by means of a properly designed regulated charging system. If your battery has been discharged well below the recommended 12.8 volts we recommend following chart to the right for proper recharging of the POWER battery. The charging times stated are using an automotive Current Tapering Charger or otherwise know as a Constant Voltage Charger. These chargers are microprocessor controlled and will regulate the charge voltage and current far better than the run of the mill automotive power charger. Contact Stinger® for more information on how to obtain one of these superior chargers.

Never use an inexpensive constant current or "trickle" charger! These chargers do not have regulated charging abilities. They can overcharge the POWER battery causing severe damage to the battery. Even a small amount or .5 amp from a trickle charger if left on after the battery is fully charged will overcharge the battery. Overcharging will overheat and dry out the electrolyte causing the battery to fail prematurely. **Overcharged batteries are not covered under warranty.** An undercharged battery not only has a temporary reduction in capacity, if left in an undercharged state or continually undercharged, the capacity and life of the battery will be permanently reduced. **The battery warranty does not cover batteries that fail due to undercharging.** For this reason we recommend that you keep the battery fully charged at all times with a properly designed charging system that charges at 13.8 volts for float/standby usage and 14.5-15 volts in cyclic applications.

Long Time Vehicle Storage

If you are going to store your vehicle for longer than 30 days you will need to take the following steps to prevent long term damage to the POWER battery.

- 1. Disconnect the battery from any and all power draining devices.
- 2. Do not leave a trickle charger on the battery. This will overcharge the battery.
- 3. If you have components that need to stay powered during storage ie; car alarm system, you may use a battery tender device. They have a regulated output that will monitor battery voltage closely and keep the battery at peak voltage. Choose a tender that has the ability to reduce charge to .05 amps (five hundredths of an amp, not half an amp).

Any of the following actions will void the warranty!
Exposure of battery to gasoline or diesel fuel.
Removal of the battery's top cover.
Removing or destroying the battery's shipping date code.

Approximate Charging Times
based on using a Current Tapering Charger set at
14.7 to 15 volts and 100% re-charge.

Automotive Current Tapering Charger Rated @:	Hours to Charge				
	SPV20	SPV35	SPV44	SPV70	
15 amps	9 hr. 14 hr.	16 hr. 24 hr.	20 hr. 30 hr.	NR NR	Minimum Maximum
20 amps	7 hr. 11 hr.	12 hr. 16 hr.	16 hr. 24 hr.	20 hr. 30 hr.	Minimum Maximum
30 amps	6 hr. 8 hr.	5 hr. 10 hr.	12 hr. 16 hr.	16 hr. 24 hr.	Minimum Maximum
40 amps	2.5 hr. 4.5 hr.	5 hr. 8 hr.	5 hr. 10 hr.	12 hr. 16 hr.	Minimum Maximum
50 amps	NR	NR	5 hr. 8 hr.	5 hr. 10 hr.	Minimum Maximum
100 amps	NR	NR	NR	3 hr. 6 hr.	Minimum Maximum
	NR= Not Recommended				

Specifications

	SPV20	SPV35	SPV44	SPV70
Dimensions:	7-1/8" wide 3" Deep 7-1/2" High	7-7/8" Wide 5-3/8" Deep 7-3/8" High	8" Wide 6-3/4" Deep 7-1/4" High	14" Wide 6-3/4" Deep 7-3/4" High
Weight:	14.8 lbs.	26.4 lbs.	33.2 lbs.	52.9 lbs.
Internal Resistance:	<11 mOhms	<8 mOhms	<6 mOhms	<5mOhms
Constant Discharge Capacity at 77°F to 10.50 Volts:				
20 hour rate:	1A/20Ah	1.75A/35Ah	2.2A/44.0Ah	3.5A/70Ah
5 hour rate:	3.4A/17Ah	5.95A/29.75Ah	7.48A/37.4Ah	11.9A/59.5Ah
.5 hour rate:	25A/12.5Ah	43.75A/21.9Ah	55.0A/27.5Ah	87.5A/43.75Ah
Rapid Discharge Capacity:				
5 sec. Burst:	300 Amps	525 Amps	725 Amps	1050 Amps
CCA:	230 Amps	400 Amps	660 Amps	770 Amps

General POWER Battery Information:
Battery Design: 12V Dry Cell VRLA
Typical Cycle Life: 300 cycles @ 100% depth of discharge
(100% depth of discharge is down to 10.5 volts. No lower!)

Congratulations!

You have purchased the most technologically advanced battery available for the extreme demands of car audio. When the POWER battery is properly installed and maintained it will give you years of service. Some of the advantages you will gain by using the POWER battery are:

- Greater amounts of power available on demand for your audio system.
- Freedom to mount in any position without acid leakage.
- No terminal corrosion.
- Extremely fast recharge capability.
- More power per pound than any other battery.

Installation Tips

Caution!

Always wear safety glasses and follow the safety guidelines below when working around batteries:

Note: The terminal design on the POWER battery allows the direct connection of GM style side mount battery terminals without modification.

1. Always disconnect the negative (ground) cable first when removing batteries.
2. Connect the negative (ground) cable last when installing batteries.
3. Handle and Lift batteries with care. Ensure a good grip before lifting.
4. Clean all vehicle cable ends and connectors with a wire brush or emery cloth until shiny and free from oxidation or corrosion.
5. Inspect battery mounting area to be sure it is clean and free from objects that could damage the bottom of the battery.
6. Replace any corroded connections or worn cables. Replace or repaint any corroded hold-downs, shelves or trays.
7. If installing batteries in a sealed battery enclosure make sure to route tubing from the battery enclosure to outside the vehicle and into open air. In the event of a charging system malfunction, overcharging may occur and the tubing will direct gases safely away from the passenger compartment.
8. Use extreme caution when making cable connections to the battery. Extensive damage and dangerous sparks will occur if cables are crossed.
9. Tighten connections to a snug fit (do not overtighten). Over-tightening can damage the battery and VOID THE WARRANTY. Recheck connections occasionally to ensure good connections.
10. If installing multiple batteries, make provisions to disconnect the batteries from each other when not in use for extended periods of time as a precautionary measure.
11. When using a multi-battery system, monitor the voltage of your batteries often. If voltage drops below 11.9 volts then disconnect the batteries from each other and test each battery individually for possible problems.

Warranty Statement

LIMITED WARRANTY: 12 - month Replacement
Stinger® a division of AAMP of America® (Seller), warrants its batteries to be free of defects in material and workmanship. This warranty is effective for 12 months from the date of purchase with original receipt, 12 months from manufacturer's shipping date code on battery if no original receipt is available. Within the warranty period, the battery will be replaced free of charge (shipping costs are not covered by warranty) if adjustment is necessary due to defect in material or workmanship (not merely discharged). Simply return the battery to the authorized Stinger® dealer where purchased with the original receipt for return to Stinger® for evaluation.

GENERAL PROVISIONS

A. Seller has no obligation under the limited warranty set forth above in the event the battery is damaged or destroyed as a result of:

- * willful abuse or neglect or if the top decorative cover has been removed.
- * natural forces such as wind, lightning, hail; damage due to fire, collision, explosion, vandalism, theft, penetration or opening of the battery case in any manner.
- * overcharging, charging or installing in reverse polarity, improper maintenance or mishandling of the battery such as but not limited to using the terminals for lifting or carrying the battery.
- * failure to properly install the battery.
- * normal deterioration in the electrical qualities or the acceleration of such deterioration due to conditions that accelerate such deterioration.
- * if the battery is used for an application that requires higher cranking power or a greater reserve rating than the battery is designed to deliver or the battery capacity is less than the battery capacity specified by the vehicle manufacturer or the battery is otherwise used in applications for which it was not designed.
- * use of the battery without its protective metal case.
- * failing to properly maintain the battery in a charged state above 12.5 volts or not charging battery with sufficient charge current as set forth in the charging instructions of this battery.

B. The following conditions will void warranty

1. Removal or alteration of the battery's white shipping date code label located on the top of battery.
2. Dropping the battery or striking the battery case or battery terminals with damaging force.
3. Overcharging the battery resulting in but not limited to swelling of the battery case which in turn causes misalignment of the internal structure of the battery.
4. Undercharging the battery by not providing sufficient charging power by either lack of sufficient voltage, amperage or both.

C. To Obtain Warranty Service:

1. Return battery to the authorized Stinger® dealer where purchased. If the original selling dealer cannot be contacted, call 727-572-9255 ext.248 for return instructions.
2. If the battery is determined to be defective in material or workmanship under terms of this warranty, it will be replaced.

THIS LIMITED WARRANTY IS IN LIEU OF, AND SELLER DISCLAIMS AND EXCLUDES, ALL OTHER WARRANTIES, STATUTORY, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE THAT WOULD OTHERWISE BE IN EFFECT FOR LONGER THAN THE EFFECTIVE WARRANTY PERIOD. SELLER'S EXCLUSIVE LIABILITY FOR BREACH OF WARRANTY SHALL BE TO REPLACE THE BATTERY WITHIN THE EFFECTIVE WARRANTY PERIOD. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY LOSS OR DAMAGES OF ANY OTHER KIND, WHETHER DIRECT, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY, SPECIAL OR OTHERWISE NOR SHALL SELLER BE LIABLE FOR ANY REMOVAL OR INSTALLATION EXPENSE, OR THE LOSS OF TIME OR PROFITS.

Some states do not allow limitation on how long an implied warranty lasts or the exclusion or the limitation of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights which may vary from state to state.

Important !

Do not throw batteries in the trash! Dispose of batteries properly so that they will be recycled.



SPV20 - SPV35 SPV44 - SPV70 Owner's Manual & Instructions

Warning!!

Failure to read, understand and follow the instructions contained in this owner's manual may result in you unintentionally voiding your battery's warranty! Please contact your Stinger® dealer or Stinger® Tech Support with any questions concerning these instructions prior to installing your Stinger® battery.

Stinger® Electronics

13160 56th Court - Clearwater, Florida 33760

Phone: 727-572-9255 - Tech Support: Ext. 230

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